

WHAT IS CLAIMED IS:

1. A method for establishing a communications connection, comprising:

providing a digital subscriber line access
5 multiplexer having an integrated circuit chip, the integrated circuit chip operable to form a digital subscriber line connection with a communications device;

consecutively transmitting a plurality of
parameters by the digital subscriber line access
10 multiplexer to the communications device, each parameter correlated with at least one connection setting and identifying a particular party as a manufacturer of the integrated circuit chip;

establishing a plurality of digital subscriber
15 line connections each having a one-to-one correspondence with the each parameter, wherein each connection is established in response to transmitting the each parameter using the at least one connection setting correlated with the each parameter;

20 selecting one of the connections as having a data transfer rate that is greater than a particular threshold;

identifying one of the parameters that
corresponds to the selected connection; and

25 initiating, by the digital subscriber line access multiplexer, an establishment of the digital subscriber line connection with the communications device using a communications setting correlated with the identified parameter.

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2. The method of Claim 1, wherein the communications device is a first communications device belonging to a category, and further comprising:

correlating the identified one of the
5 parameters with the category;

terminating the digital subscriber line connection with the first communications device;

receiving a request to form a new digital subscriber line connection with a second communications
10 device, the second communications device belonging to the category;

determining that the second communications device belongs to the category; and

in response to the determination that the
15 second communications device belongs to the category, establishing the new digital subscriber line connection with the second communications device using the communications setting correlated with the identified one of the parameters.

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3. The method of Claim 1, wherein selecting one of the connections comprises selecting one of the connections as having a signal to noise ratio that is within a predetermined range.

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4. The method of Claim 1, wherein consecutively transmitting a plurality of parameters comprises consecutively transmitting a plurality of parameters using a corresponding plurality of C-MSGs1 messages.

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5. The method of Claim 1, wherein the plurality of parameters is a plurality of parameter sets, and wherein each parameter set identifies the particular party as a manufacturer of the integrated circuit chip and a particular version of ANSI T1.413 standard to which the integrated circuit ship complies.

6. A method for establishing a communications connection, comprising:

transmitting, by a digital subscriber line access multiplexer to a communications device, a
5 plurality of parameters each representing a different indication of a same feature of the digital subscriber line access multiplexer and correlated with one or more communications settings;

establishing a plurality of digital subscriber
10 line connections with the communications device, each connection corresponding with a particular one of the parameters;

selecting one of the connections as meeting a predetermined criteria;

15 identifying one of the parameters that corresponds to the selected connection; and

establishing a digital subscriber line connection with the communications device using at least one communications setting correlated with the identified
20 parameter.

7. The method of Claim 6, wherein the same feature is a manufacturer of an integrated circuit chip in the digital subscriber line access multiplexer, the
25 integrated circuit chip operable to establish the plurality of digital subscriber line connections.

8. The method of Claim 6, wherein the same feature is a model identifier of an integrated circuit chip in
30 the digital subscriber line access multiplexer, the

integrated circuit chip operable to establish the plurality of digital subscriber line connections.

9. The method of Claim 6, wherein the same feature
5 is a particular version of ANSI T1.413 to which an integrated circuit chip in the digital subscriber line access multiplexer complies, the integrated circuit chip operable to establish the plurality of digital subscriber line connections.

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10. The method of Claim 6, wherein each parameter is transmitted as a part of a particular C-MSGSl message.

11. The method of Claim 6, wherein selecting one of
15 the connections comprises selecting one of the connections having the fastest data transfer rate while having a signal to noise ratio no less than six decibels.

12. The method of Claim 6, wherein selecting one of
20 the connections comprises selecting one of the connections having a signal to noise ratio that is within a predetermined range.

13. The method of Claim 6, wherein selecting one of
25 the connections comprises selecting one of the connections having a data transfer rate that is equal to or greater than a minimum data transfer rate and a signal to noise ratio that is within zero to nine decibels.

14. The method of Claim 6, and further comprising:
receiving an indication that a previously
established digital subscriber line connection between
the communications device and the digital subscriber line
5 access multiplexer is unsatisfactory; and
wherein the plurality of parameters are
transmitted in response to receiving the indication.

15 15. The method of Claim 6, wherein transmitting a
plurality of parameters comprises consecutively
transmitting the plurality of parameters, each parameter
transmitted after establishing a corresponding one of the
connections.

16 16. The method of Claim 6, wherein the
communications device is a first communications device
belonging to a category, and further comprising:

correlating the identified parameter with the
category;

20 terminating the established digital subscriber
line connection with the first communications device;

receiving a request to form a new digital
subscriber line connection with a second communications
device, the second communications device belonging to the
25 category;

determining that the second communications
device belongs to the category; and

in response to the determination that the
second communications device belongs to the category,
30 establishing the new digital subscriber line connection
with the second communications device using the at least

one communications setting correlated with the identified parameter.

17. The method of Claim 6, and further comprising:
- 5 failing to establish any digital subscriber
line connection with the communications device;
 establishing at least one of the plurality of
digital subscriber line connections using a set of safety
parameters, the set including a first parameter
10 indicating that bit-swapping is disabled, a second
parameter indicating that trellis coding is disabled, a
third parameter indicating that no power management is
conducted, and a fourth parameter indicating that
overhead framing mode three is supported.

18. A system for establishing a communications connection, comprising:

a digital subscriber line access multiplexer having a processor and an integrated circuit chip operable to establish a digital subscriber line connection with a communication device; and

a program operable, when executed using the processor, to:

transmit a plurality of parameters to the communications device, each parameter representing a different indication of a same feature of the digital subscriber line access multiplexer and correlated with one or more communications settings;

establish a plurality of digital subscriber line connections with the communications device through the integrated circuit chip, each connection corresponding with a particular one of the parameters;

select one of the connections as meeting a predetermined criteria;

identify one of the parameters that corresponds to the selected connection; and

establish the digital subscriber line connection with the communications device using at least one communications setting correlated with the identified parameter.

19. The system of Claim 18, wherein the same feature is a manufacturer of the integrated circuit chip.

20. The system of Claim 18, wherein the same feature is a model identifier of the integrated circuit chip.

5 21. The system of Claim 18, wherein the same feature is a particular version of ANSI T1.413 to which the integrated circuit chip complies.

10 22. The system of Claim 18, wherein the each parameter is transmitted as a part of a particular C-MSG51 message transmitted by the integrated circuit chip.

15 23. The system of Claim 18, wherein the program is operable to select one of the connections having the fastest data transfer rate as meeting the predetermined criteria.

20 24. The system of Claim 18, wherein the program is operable to select one of the connections having the highest signal to noise ratio as being within a predetermined range.

25 25. The system of Claim 18, wherein the program is operable to select one of the connections having a data transfer rate that is equal to or greater than a minimum data transfer rate and a signal to noise ratio that is within a predetermined range of one decibel to nine decibels.

26. The system of Claim 18, wherein the program is further operable to:

receive an indication that a previously established digital subscriber line connection between the communications device and the digital subscriber line access multiplexer is unsatisfactory; and

wherein the plurality of parameters are transmitted in response to receiving the indication.

27. The system of Claim 18, wherein the program is operable to transmit a plurality of parameters by consecutively transmitting the plurality of parameters, each parameter transmitted after establishing a corresponding one of the connections.

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28. The system of Claim 18, wherein the communications device is a first communications device belonging to a category, and the program is further operable to:

initiate a correlation of the identified parameter with the category;

terminate the established digital subscriber line connection with the first communications device;

receive a request to form a new digital subscriber line connection with a second communications device, the second communications device belonging to the category;

determine that the second communications device belongs to the category; and

in response to the determination that the second communications device belongs to the category,

initiate an establishment of the new digital subscriber line connection with the second communications device using the at least one communications setting correlated with the identified parameter.

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29. The system of Claim 18, wherein the program is further operable to:

determine that the integrated circuit chip failed to establish any digital subscriber line
10 connection with the communications device;

initiate an establishment at least one of the plurality of digital subscriber line connections using a set of safety parameters, the set including only a first parameter indicating that bit-swapping is disabled, a
15 second parameter indicating that trellis coding is disabled, a third parameter indicating that no power management is conducted, and a fourth parameter indicating that overhead framing mode three is supported.

20 30. The system of Claim 18, wherein the program is implemented as a part of the integrated circuit chip.

31. A system for establishing a communications connection, comprising:

means for communicating with a communications device over a digital subscriber line connection; and

5 means for transmitting a plurality of parameters to the communications device, each parameter representing a different indication of a same feature of the digital subscriber line access multiplexer and correlated with one or more communications settings, establishing a
10 plurality of digital subscriber line connections with the communications device through the integrated circuit chip, each connection corresponding with a particular one of the parameters, selecting one of the connections as meeting a predetermined criteria, identifying one of the
15 parameters that corresponds to the selected connection, and establishing the digital subscriber line connection with the communications device using at least one communications setting correlated with the identified parameter.

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